DATA SHEET

TDA1082
East-West correction driver circuit

Product specification
File under Integrated Circuits, IC02

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Philips
Semiconductors

PHILIPS

East-West correction driver circuit TDA1082

GENERAL DESCRIPTION

The TDA1082 is a monolithic integrated circuit driving east-west correction of colour tubes in television receivers. The circuit can be used for class-A and class-D operation and incorporates the following functions:

- differential input amplifier
- squaring stage
- differential output amplifier with driver stage
- protection stage with threshold
- switching off the correction during flyback
- voltage stabilizer

QUICK REFERENCE DATA

Supply voltage (pin 1)	V_P	typ.	12	V
Current consumption	I_P	typ.	17	mA
Total power dissipation	P_{tot}	max.	600	mW
Operating ambient temperature range	T_{amb}		0 to + 70	°C
Collector voltage drift external transistor	ΔV_C	typ.	0,7	V

PACKAGE OUTLINE

16-lead DIL; plastic (SOT38); SOT38-1; 1996 November 19.

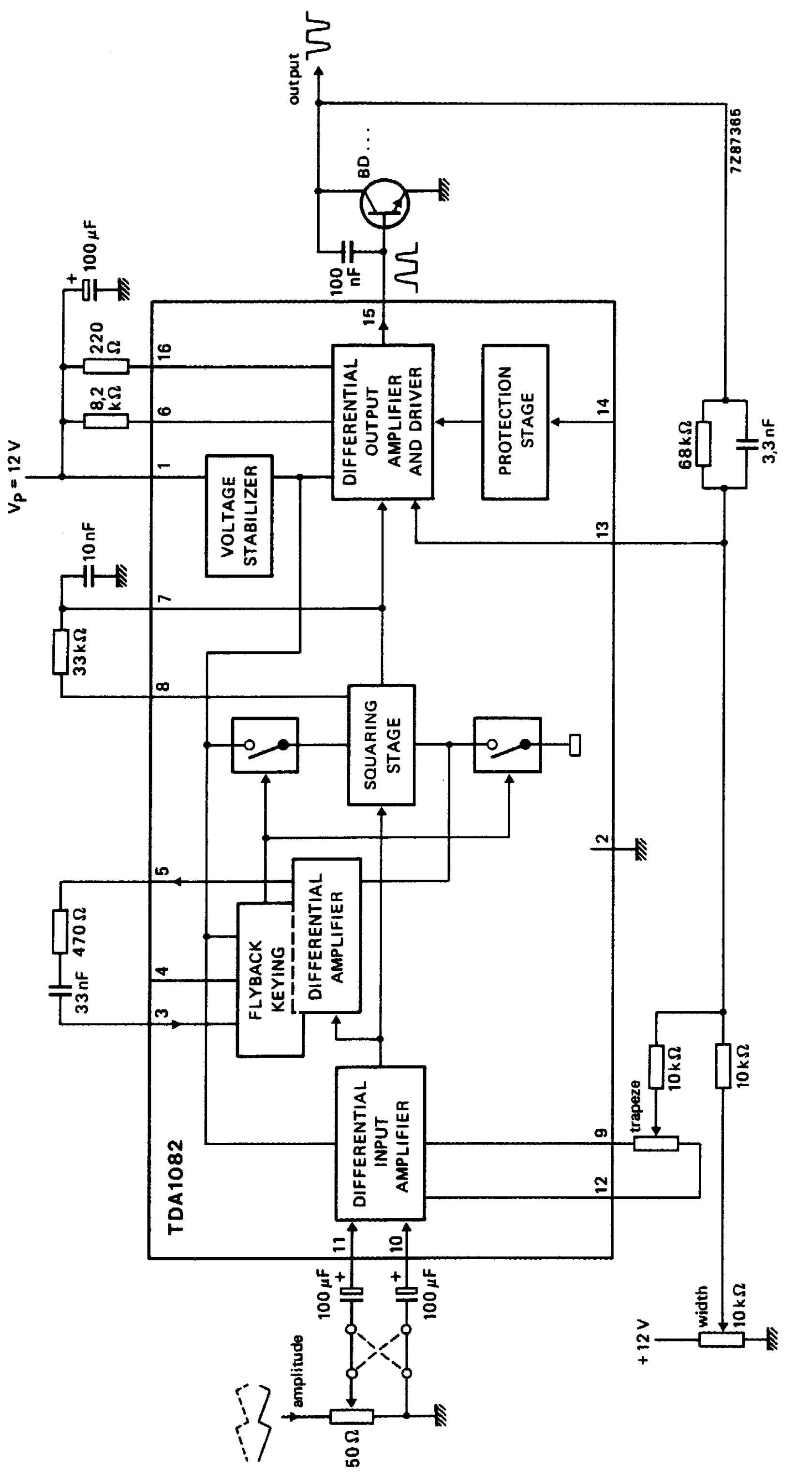


Fig.1 Block diagram with external components (class-A operation). Also used as test circuit.

East-West correction driver circuit TDA1082

RATINGS

Limiting values in accordance with the Absolute Maximum System (IEC 134)

Supply voltage (pin 1)	V_P	max.	16	V
Output current (pin 15)	$-I_O$	max.	50	mA
Total power dissipation	P_{tot}	max.	600	mW
Storage temperature range	T_{stg}	–25 to + 150		°C
Operating ambient temperature range	T_{amb}	0 to + 70		°C
Voltages				
with respect to ground (pin 2)		min.	max.	
Pins 1, 5, 7, 8, 9, 12, 13 and 16		0	16	V
Pins 3 and 4		0	–	V
Pins 10, 11 and 15		0	5	V
Currents				
Pins 3, 4 and 6		–	5	mA
Pin 14		0	1,5	mA
Pins 15 and 16 ($-I_{15\ and}$ $+I_{16}$)		0	50	mA

CHARACTERISTICS

V_P = 12 V (range 10,5 to 14 V); T_{amb} = 25 °C; measured in circuit Fig.1 with colour tube A66-500X; unless otherwise specified

Supply					
Voltage range	V_P	10,5	to	14	V
Voltage peak value	V_{PM}	max.		15	V
Current range	I_P	11	to	30	mA
Current typical value	I_P	typ.		17	mA
Sawtooth signal (pin 10 or 11)					
Input voltage d.c. value	V_i	typ.		2,5	V
Input resistance	R_i	typ.		5,6	k Ω
		<		7,0	k Ω
Correcting signals (pin 13)					
Input voltage d.c. value	V_{13}	typ.		0,6	V
Input current	I_{13}	typ.		0,5	mA
Flyback keying (pin 3)					
Input current range	I_3	0,05	to	5	mA
Peak value, d = 5%	I_3	typ.		20	mA
Threshold (pin 14)					
Input voltage at I_{14} = 200 µA					
for switching off the driver stage	V_i	typ.		8	V
		7,2	to	8,8	V

Output stage (pin 6)					
Generator current	I_6	typ.		1	mA
Flyback differential amplifier (pin 5)					
D.C. value output voltage	V_5	typ.		6	V
Output resistance	R_5	typ.		5,6	kΩ
Squaring stage (pin 7)					
D.C. value output voltage	V_7	typ.		6	V
Peak to peak value output voltage	$V_{7(p-p)}$	typ.		1,5	V
Output resistance	R7	5,6	to	9,4	kΩ
		typ.		7,5	kΩ
Correction trapezoidal deformation (pins 9 and 12)					
D.C. voltage	$V_{9,\ 12}$	typ.		5	V
Output resistance	$R_{9,\ 12}$	typ.		7,5	kΩ
Driver output (pin 15)					
Output current	$-I_{15}$	<		50	mA
Drift of d.c. collector voltage					
Of external transistor in closed loop					
T_{amb} = 15 to 70 °C; V_{CO} = 8 V	ΔV_C	typ.		0,7	V

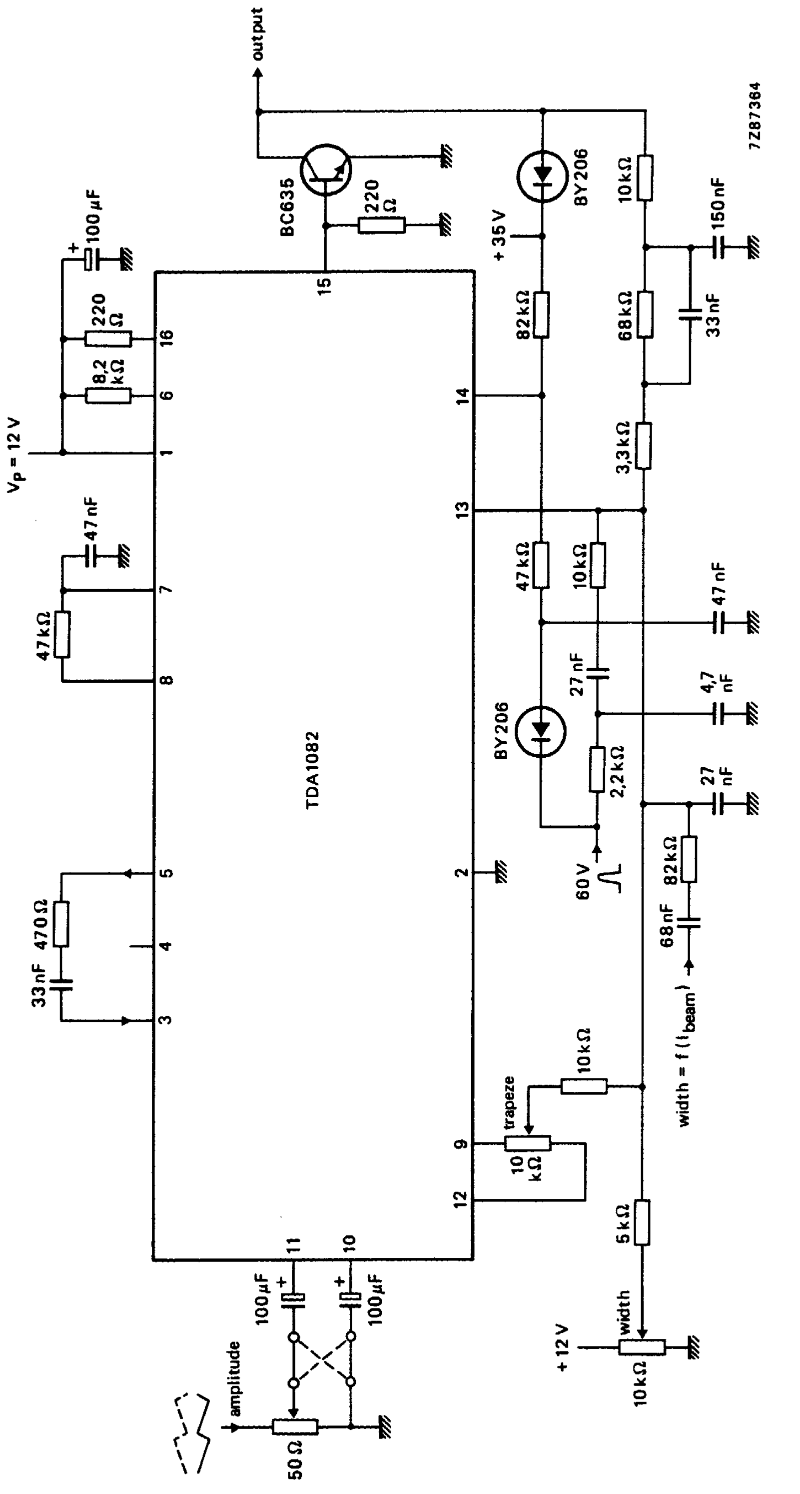
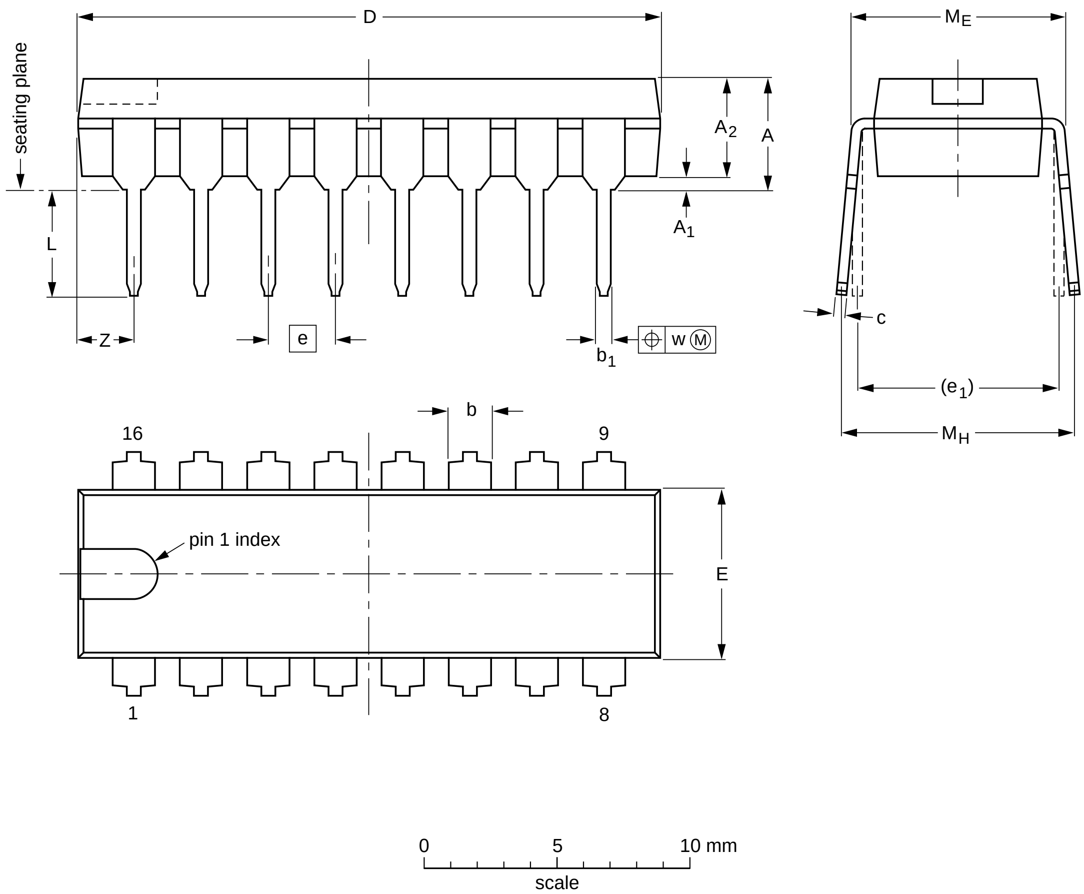


Fig.2 Application circuit E-W-correction (class-D operation).

PACKAGE OUTLINE

DIP16: plastic dual in-line package; 16 leads (300 mil); long body **SOT38-1**



DIMENSIONS (inch dimensions are derived from the original mm dimensions)

UNIT	A max.	A_1 min.	A_2 max.	b	b_1	c	D (1)	E (1)	e	e_1	L	M_E	M_H	w	Z (1) max.
mm	4.7	0.51	3.7	1.40 1.14	0.53 0.38	0.32 0.23	21.8 21.4	6.48 6.20	2.54	7.62	3.9 3.4	8.25 7.80	9.5 8.3	0.254	2.2
inches	0.19	0.020	0.15	0.055 0.045	0.021 0.015	0.013 0.009	0.86 0.84	0.26 0.24	0.10	0.30	0.15 0.13	0.32 0.31	0.37 0.33	0.01	0.087

Note

1. Plastic or metal protrusions of 0.25 mm maximum per side are not included.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT38-1	050G09	MO-001AE				~~92-10-02~~ 95-01-19

SOLDERING

Introduction

There is no soldering method that is ideal for all IC packages. Wave soldering is often preferred when through-hole and surface mounted components are mixed on one printed-circuit board. However, wave soldering is not always suitable for surface mounted ICs, or for printed-circuits with high population densities. In these situations reflow soldering is often used.

This text gives a very brief insight to a complex technology. A more in-depth account of soldering ICs can be found in our *"IC Package Databook"* (order code 9398 652 90011).

Soldering by dipping or by wave

The maximum permissible temperature of the solder is 260 °C; solder at this temperature must not be in contact with the joint for more than 5 seconds. The total contact time of successive solder waves must not exceed 5 seconds.

The device may be mounted up to the seating plane, but the temperature of the plastic body must not exceed the specified maximum storage temperature ($T_{stg\ max}$). If the printed-circuit board has been pre-heated, forced cooling may be necessary immediately after soldering to keep the temperature within the permissible limit.

Repairing soldered joints

Apply a low voltage soldering iron (less than 24 V) to the lead(s) of the package, below the seating plane or not more than 2 mm above it. If the temperature of the soldering iron bit is less than 300 °C it may remain in contact for up to 10 seconds. If the bit temperature is between 300 and 400 °C, contact may be up to 5 seconds.

DEFINITIONS

Data sheet status	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
Limiting values	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
Application information	
Where application information is given, it is advisory and does not form part of the specification.	

LIFE SUPPORT APPLICATIONS

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